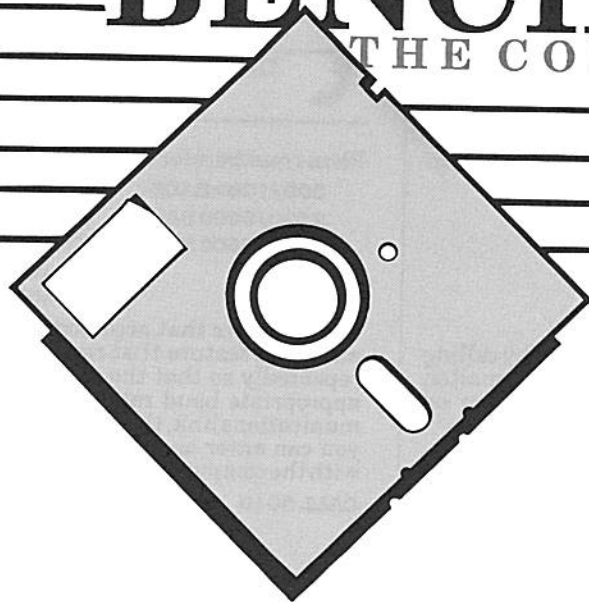


BENCHMARKS

THE COMPUTING CENTER



University of North Texas

VOLUME 10 NUMBER 1

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SERVICES AVAILABLE TO USERS OF THE UNT COMPUTING FACILITIES

The UNT Computing Center is located in the Information Sciences Building (ISB), Room 119. Phone Numbers:

Computing Center: (817) 565-2324
Help Desk: (817) 565-4050
Graphics Lab: (817) 565-3479
ISBI/O Area: (817) 565-3890
BAI/O Area: (817) 565-2350

All personnel listed below can be contacted either by calling the Computing Center or by sending them electronic mail on MUSIC/SP (ID-codes follow each name. All IDs are on BITNET node UNTMUSIC).

BENCHMARKS - Claudia Lynch (AS04)

Information & ID-Codes; Disk Space Problems - Marilyn Jett

Statistical/Research Support - George Morrow (AS01), Panu Sittiwong (AC09), Phanit Laosirirat (AC44)

Academic ADABAS/COM-LETE - Janis Burckham (AC55)

CRSP & COMPUSTAT Problems - Panu Sittiwong (AC09), Phanit Laosirirat (AC44)

Student Programming Problems - CSCI Dept., GAB Room 542A; BCIS Dept., BA Room 152

Problems with JCL, Passwords, or Operating Systems; or Communication/Terminal Problems - Help Desk

Data Entry; Test Scoring & Analysis - Betty Grise

Administrative Applications - Coy Hoggard

Printout Retrieval - ISB or BAI/O Operators



DIALING-UP UNT COMPUTERS OVER THE TELEPHONE

Phone numbers for the Local Area Network (LAN) are:

300/1200 BAUD: (817) 565-3300, (817) 565-3499
2400/9600 BAUD (817) 565-3461
2400/9600 BAUD D/FW METRO 429-6006, 429-9314
 Area code 214 must dial 817 before the METRO number.

The numbers that accommodate multiple baud rates have an autobaud feature that requires you to hit the <RETURN> key repeatedly so that the receiving modem can determine the appropriate baud rate. When you have established a communications link, the # prompt will appear on your screen and you can enter one of following CALL commands to connect with the computer of your choice.

CALL 8040 connects with the NAS/8083 (supports line editing or PCWS). Operating environments available are: MUSIC/SP, VM/CMS.

CALL 3270 connects with the NAS/8083 through a 3270 protocol converter (supports full-screen editing). Operating environments are: MUSIC/SP, VM/CMS, ADABAS/COM-LETE, PHOENIX

CALL DEC connects with the VAXcluster (VMS, Eunice)

CALL 780 connects with the Research VAX (Unix)

CALL 3000 connects with the Libraries' HP-3000 (Bibliographic database).

CALL 6800 connects with the NBI (Unix)

Communications Settings

LAN addresses	Data Bits	Parity	Stop Bits
DEC, 3000	8	N	1
8040, 3270, 780, 6800	7	E	1

HOURS FOR UNIVERSITY OF NORTH TEXAS COMPUTER ACCESS AREAS : SPRING 1989*

Location	Days	Times
Computing Center RJE	Sunday Monday Tuesday-Saturday	Noon-Midnight 7 a.m.-Midnight 7 a.m., Tues.-Midnight Sat. (Open 24 hours/day)
ISB 110 Terminal Area	Sunday Monday-Thursday Friday Saturday	1 p.m.-Midnight 7:30 a.m.-Midnight 7:30 a.m.-9 p.m. 9 a.m.-9 p.m.
College of Business	Saturday, Sunday Monday-Thursday Friday	Noon-11:45 p.m. 8:15 a.m.-11:45 p.m. 8:15 a.m.-7:45 p.m.
GAB 550C	Sunday Monday-Thursday Friday Saturday	2 p.m.-Midnight 8 a.m.-Midnight 8 a.m.-5 p.m. 2 p.m.-7 p.m.
Graphics Lab	Sunday Monday-Thursday Friday Saturday	Noon-10 p.m. 8 a.m.-11 p.m. 8 a.m.-6 p.m. Noon-5 p.m.

*Hours may vary. Check MUSIC/VAX News and/or posted schedules for exceptions.

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GENERAL INFORMATION

MICROCOMPUTER SUPPORT GROUP FORMED

By Dave Molta,
Manager of Academic
Computing Services
(BITNET: MOLTA@UNTVAX)



In an effort to provide better services to the ever increasing number of microcomputer users on campus, the Computing Center has consolidated its academic and administrative microcomputer support groups into a single support group. The new group, which reports to the Manager of Academic Computing Services, is coordinated by Kyle Capps, who previously headed up the Office Automation Team within Administrative Information Systems. Individuals reporting to Kyle include Sandy Franklin, Kevin Mullet, Jim Stinson, and Pok Seong Kwong.

Responsibilities of the new Microcomputer Software Support group will include the provision of individual and group software training, software installation assistance, software problem resolution, coordination of site-licensed software acquisition and distribution, and microcomputer network design, acquisition, installation and support services. We are also in the process of instituting a software support hotline in order to deal more effectively with the growing number of user requests for assistance with microcomputer software problems.

It is our hope that the creation of a Microcomputer Software Support Group will allow us to enhance our microcomputer software services. While we continue to recognize the importance of maintaining distinct support staffs for academic and administrative mainframe users, we have concluded that an integrated approach to supporting microcomputers will allow us to provide a higher level of specialization and also to provide you with faster response when you have a problem. Note that although the new group is only responsible for microcomputer software support, we will continue to work closely with the Microcomputer Maintenance shop, which is responsible for microcomputer hardware problems, in attempting to resolve all microcomputer-related problems. §

Computer Systems Upgraded Over Semester Break

Several upgrades were made to the UNT computer systems during the break for the Christmas holidays. Among the systems that were upgraded were VM/SP on the Academic NAS 8083 computer and VMS on the VAXcluster.

VM/SP was upgraded to Release 5.1, which should be transparent to users except for a rather dramatic change in the VM logo screen. There are now three new fields on the screen, which ask for USERID, PASSWORD, and COMMAND. All DIAL commands (DIAL MUSIC, etc.) should be entered in the COMMAND line, with the USERID and PASSWORD field being reserved for those accessing a virtual machine such as a CMS ID. Questions about this new screen should be directed to the Computing Center Help Desk (565-4050, ISB 110).

The VMS operating system on the VAXcluster was upgraded to Release 5. An article detailing all the new features available under this new release appears in the VAXcluster section of this newsletter.

SPSS^X, a statistical package that runs on the OS/MVS operating system of the NAS 8083, was also upgraded. Version 3.0 is now the default version of that product, and is reviewed here on page 5. §

7171 Protocol Converter Installed

By Philip Baczewski, IBM Timeshare Systems Coordinator/Graphics Lab Manager/Assistant *Benchmarks* Editor (BITNET: AC12@UNTMUSIC)

As announced in the previous issue of *Benchmarks*, the IBM 7171 protocol converter has now been installed as the primary full-screen access facility for the IBM software systems on the NAS 8083. As discussed before, this device is similar in function to the Renex protocol converters which were previously accessed through CALL 3270. The IBM 7171, however, provides 3270 terminal emulation with much faster response times than the Renex models.

Access to the 7171 ports is now available by issuing the CALL 3270 command from the LAN # prompt. The method for specifying your terminal type has changed with the installation of the 7171. Once your call is completed to a protocol converter port, you will see the message:

ENTER TERMINAL TYPE:

If, you previously had entered the terminal type 02, you now enter VT100. If you used to enter 04, you now should use VT52. At this time, VT100 and VT52 are the only terminal types which have been tested and made publicly available. We are currently trying to determine the terminal types which are used frequently. If you had been using a terminal type other than "02" or "04", please contact Claudia Lynch (userid AS04) at the Computing Center offices (565-2324, ISB 119). By letting us know what type of terminal you use, you can help us in providing the terminal types necessary for your use of the 7171.

When using an IBM 7171 protocol converter port (through CALL 3270), you can use the same escape sequences you had been using pre-

VT100 Cheat Sheet (with Numeric Keypad**)

3270 FUNCTION	KEY SEQUENCE	3270 FUNCTION	KEY SEQUENCE
PA1	ESC Q	PF1	PF1 or ESC 1
PA2	ESC W	PF2	PF2 or ESC 2
PA3	ESC E	PF3	PF3 or ESC 3
BACK TAB	ESC TAB	PF4	PF4 or ESC 4
CLEAR	CONTROL C	PF5	ESC 5
COPY	ESC ESC =	PF6	ESC 6
CURSOR DOWN	DOWN-ARROW	PF7	ESC 7
CURSOR UP	UP-ARROW	PF8	ESC 8
CURSOR LEFT	LEFT-ARROW	PF9	ESC 9
	or BACKSPACE	PF10	ESC 0
CURSOR RIGHT	RIGHT-ARROW	PF11	ESC -
CURSOR SELECT	ESC ESC @	PF12	ESC =
DELETE CHARACTER	DELETE	PF13	ESC ESC 1 3
DUP	ESC ESC "	PF14	ESC ESC 1 4
ENTER	RETURN	PF15	ESC ESC 1 5
ERASE EOF	ESC ,	PF16	ESC ESC 1 6
ERASE INPUT	ESC .	PF17	ESC ESC 1 7
FM	CONTROL F	PF18	ESC ESC 1 8
FORCE SELECT/MENU	ESC ESC M	PF19	ESC ESC 1 9
HOME	ESC H	PF20	ESC ESC 2 0
INSERT MODE	ESC ESC I	PF21	ESC ESC 2 1
NEW LINE	LINE FEED	PF22	ESC ESC 2 2
RESET	CONTROL R	PF23	ESC ESC 2 3
SCREEN REFRESH	ESC ESC V	PF24	ESC ESC 2 4
SYSTEM REQUEST	ESC S		
TAB	TAB		

**When using the VT100 terminal type with a terminal that supports the numeric keypad, to set the terminal keypad to program function keypad mode, type: ESC P F K

Where letters (A..Z) are specified to be typed, either all upper or all lower case letters can be used in a given sequence (e.g., ERASE EOF can be typed as ESC E F or ESC e f - but not ESC E f).

viously on CALL 3270 with the following differences:

- With the 7171, if you try to type in a "protected" field, you will get a warning beep and no characters will appear, but you can immediately use the arrow keys, the TAB key, or the <RETURN> key to move the cursor to a valid typing field without having to press Reset (<CTRL><R>). Pressing <RETURN> will also cause the screen to be updated, registering whatever changes have been made.
- The reset key, <CTRL><R>, will perform a master reset which will reset the terminal and redraw the screen. Since redrawing the screen may take some time (depending on your communications baud rate) <CTRL><R> should probably be used only

when absolutely necessary. If, however, your terminal appears to be "hung," try pressing <CTRL><R>.

- Insert mode is turned on in the usual manner, but normally should now be cleared by issuing the insert command again. In other words, the insert command will "toggle" insert mode on and off. Insert mode will also be turned off by pressing reset (<CTRL><R>), <RETURN> or any PA or PF key.
- The ATTN, CONFIGURATION MODE, COPY, IDENT, and STATUS DISPLAY functions are no longer supported. Additionally, the "universal" key sequence for reset is now <CTRL><R> rather than <ESC><ESC><R>.

- The IBM 3270-type terminals which are emulated by the 7171 have two characters that most VT100-type terminals don't have. These are the cent sign, and the "logical not" symbol. The 7171 will translate the terminal caret key (usually <SHIFT><6>) to the "logical not" symbol, and will translate the terminal backslash key to the cent sign.

Three tables which show 3270 terminal functions and the corresponding key strokes necessary to achieve those functions appear with this article. One table is for use with the VT100 terminal type (on page 2), another is for use with the VT52 terminal type, and the third consists of keystrokes which will work with either terminal type. If using the Universal Cheat Sheet, please note that the escape sequences for PF3-PF9 can be entered with or without a 0 in front of the number (i.e., ESC ESC 0 3 or ESC ESC 3). If you have any questions about using the IBM 7171 protocol converter, please contact the Computing Center Help Desk (565-4050, ISB 110).§

Faculty Seminar Scheduled

A seminar on Wide Area Networks is scheduled for Friday, February 10 from 2-5 p.m. in Room 410 of the University Union. The seminar will consist of presentations on the use of the three wide area networks accessible from UNT: BITNET, ARPA-INTERNET, and THENET. Demonstrations of each of the networks will follow the presentations.

All interested faculty members are encouraged to attend. Reservations can be made by calling or coming by the Computing Center offices (565-2324, ISB 119). §

VT52 Cheat Sheet

3270 FUNCTION	KEY SEQUENCE	3270 FUNCTION	KEY SEQUENCE
PA1	ESC [	PF1	PF1 or ESC 1
PA2	ESC]	PF2	PF2 or ESC 2
PA3	ESC ESC P 3	PF3	PF3 or ESC 3
BACK TAB	ESC TAB	PF4	PF4 or ESC 4
CLEAR	CONTROL C	PF5	ESC 5
CURSOR DOWN	DOWN-ARROW	PF6	ESC 6
CURSOR UP	UP-ARROW	PF7	ESC 7
CURSOR LEFT	LEFT-ARROW	PF8	ESC 8
CURSOR RIGHT	RIGHT-ARROW	PF9	ESC 9
CURSOR SELECT	ESC ESC @	PF10	ESC 0
DELETE CHARACTER	DELETE	PF11	ESC -
DEVICE CANCEL	ESC ESC \	PF12	ESC =
DUP	ESC ESC "	PF13	ESC ESC 1 3
ENTER	RETURN	PF14	ESC ESC 1 4
ERASE EOF	ESC ,	PF15	ESC ESC 1 5
ERASE INPUT	ESC .	PF16	ESC ESC 1 6
FM	CONTROL F	PF17	ESC ESC 1 7
FORCE SELECT/MENU	ESC ESC M	PF18	ESC ESC 1 8
HOME	ESC ESC H	PF19	ESC ESC 1 9
INSERT MODE	ESC ESC I	PF20	ESC ESC 2 0
NEW LINE	LINE FEED	PF21	ESC ESC 2 1
RESET	CONTROL R	PF22	ESC ESC 2 2
SCREEN REFRESH	ESC ESC V	PF23	ESC ESC 2 3
SYSTEM REQUEST	ESC ESC Q	PF24	ESC ESC 2 4
TAB	TAB		

Where letters (A..Z) are specified to be typed, either all upper or all lower case letters can be used in a given sequence (e.g., ERASE EOF can be typed as ESC E F or ESC e f - but not ESC E f).

Universal Cheat Sheet

These Sequences Will Work For All Available Terminal Types

3270 FUNCTION	KEY SEQUENCE	3270 FUNCTION	KEY SEQUENCE
PA1	ESC ESC P 1	PF1	ESC ESC 0 1
PA2	ESC ESC P 2	PF2	ESC ESC 0 2
PA3	ESC ESC P 3	PF3	ESC ESC 0 3
BACK TAB	ESC ESC B	PF4	ESC ESC 0 4
CLEAR	ESC ESC C	PF5	ESC ESC 0 5
CURSOR DOWN	ESC ESC - D	PF6	ESC ESC 0 6
CURSOR UP	ESC ESC - U	PF7	ESC ESC 0 7
CURSOR LEFT	ESC ESC - L	PF8	ESC ESC 0 8
CURSOR RIGHT	ESC ESC - R	PF9	ESC ESC 0 9
CURSOR SELECT	ESC ESC @	PF10	ESC ESC 1 0
DELETE CHARACTER	ESC ESC D	PF11	ESC ESC 1 1
DUP	ESC ESC "	PF12	ESC ESC 1 2
ENTER	ESC ESC RETURN	PF13	ESC ESC 1 3
ERASE EOF	ESC ESC E F	PF14	ESC ESC 1 4
ERASE INPUT	ESC ESC E I	PF15	ESC ESC 1 5
FM	ESC ESC F	PF16	ESC ESC 1 6
FORCE SELECT/MENU	ESC ESC M	PF17	ESC ESC 1 7
HOME	ESC ESC H	PF18	ESC ESC 1 8
INSERT MODE	ESC ESC I	PF19	ESC ESC 1 9
NEW LINE	ESC ESC N	PF20	ESC ESC 2 0
RESET	CONTROL R	PF21	ESC ESC 2 1
SCREEN REFRESH	ESC ESC V	PF22	ESC ESC 2 2
SYSTEM REQUEST	ESC ESC Q	PF23	ESC ESC 2 3
TAB	ESC ESC T	PF24	ESC ESC 2 4

Where letters (A..Z) are specified to be typed, either all upper or all lower case letters can be used in a given sequence (e.g., ERASE EOF can be typed as ESC ESC E F or ESC ESC e f - but not as ESC ESC E f).

SPSS^X Release 3.0: A Review

By Panu Sittiwong, Academic Computing Services Consultant (BITNET: AC09@UNTVMI)

Release 3.0 of SPSS^X has been installed as the default version of that software on the OS/MVS operating system on the Academic NAS 8083. In addition, we have also received Version 3.0 of SPSS/PC+. This article will point out some major changes and improvements in SPSS^X. The review of changes and improvement of the PC version will be presented in the next issue of *Benchmarks*.

If you are currently have SPSS/PC+ installed on your PC, you can get an upgrade by calling the Computing Center at 565-2324. Please refer to the December issue of *Benchmarks* for guidelines on having SPSS/PC+ installed on your PC.

Interactive SPSS^X

Although this release of SPSS^X can be executed interactively, the OS/MVS operating system on which SPSS^X is currently installed does not run interactively.

Macro Facility

The SPSS^X Macro facility allows you to create your own block of SPSS^X syntax and to control the execution of that block. In this manner, it allows you to create your own SPSS^X commands out of existing ones.

Macros are useful in several situations:

- Repeating a set of similar commands using looping rather than redundant specifications.
- Making a group of variables into one name that will reference the entire set.
- Running several procedures with a single command.
- Customizing the input program procedure.

Perhaps one of the simplest macros is grouping SPSS^X variable names

together into a single MACRO name. For example, the following macro (called scale1):

```
DEFINE scale1
  q1 q3 q5 q7 q10 q13
!ENDDEFINE
```

will store SPSS^X variables q1, q3, q5, q7, q10, and q13 in the macro "scale1". When scale1 is call later in the procedure, SPSS^X will substitute those variables when execute. For example:

```
FREQUENCIES VARIABLES = SCALE1
```

will produce a frequencies table for q1, q3, q5, q7, q10, and q13.

Customizing procedures is another area where macros can be used. Suppose you want a graphic representation of the normal curve, some measures of central tendency and variance. All of these can be achieved with FREQUENCIES procedure. So you can define macro which will always provides all these outputs.

```
DEFINE myfreq (vars=!CHAREND(' '))
  FREQUENCIES variables = !vars
  /format = notable
  /hbar = normal
  /statistics = default skewness kurtosis
!ENDDEFINE
```

This macro can then be called later as:

```
MYFREQ var1 var2 var10
```

SPSS^X will produce the desired horizontal bar chart with overlaid normal curve and the desired statistics for all the variables preceeding the " " character.

With the macro facility you can start building your own customized SPSS^X procedure for functions you perform frequently and store them as MUSIC/SP files. You can later use the MUSIC command /INC filename to include those macros in your SPSS^X program. Consult "Appendix A" of the SPSS^X User's

Guide: 3rd Edition for more details on Macro Facilities.

New Statistical Procedures

SPSS^X Release 3.0 includes two new non-linear regression procedures, CNLR and NLR.

- The CNLR (Constrained Non-Linear Regression) procedure uses a sequential quadratic programming algorithm and can be used for both unconstrained and constrained problems.
- The NLR (NonLinear Regression) procedure uses a Levenburg-Marquardt algorithm and can be only used for unconstrained problems.

More information on both procedures can be found in Chapter 36 of *SPSS^X User's Guide: 3rd Edition*.

Modified Procedures

Some old statistical procedures and commands have been renamed or modified.

- BREAKDOWN is now called MEANS.
- CONDESCRIPTIVES is now called DESCRIPTIVES.
- PEARSONCORR is now called CORRELATIONS.

All three procedures, however, recognize the old name as an alias in this Release.

Another major modification of the old Statistical procedures is the use of the OPTIONS and STATISTICS subcommand for specifications which were previously specified by OPTIONS and STATISTICS command in the old Release.

New Facilities:

Several useful facilities have been added to SPSS^X Release 3.0. The SET command has 5 new subcommands that enable you to customize currency formats for your own application.

Two new commands were added in this release. The PRESERVE and RESTORE commands provide you with more flexibility and control over the SET command parameters. PRESERVE saves the current SET

conditions so you can return to them by issuing the **RESTORE** command. For example:

```
SET FORMAT F4.2
PRESERVE
```

will save the current format (F4.2) and all other SET parameters in effect until restored with the **RESTORE** command.

RESTORE resets SET specifications in effect at the last active **PRESERVE** command. After the specifications are restored, the **PRESERVE** command is no longer active. For example:

```
PRESERVE
SET FORMAT F5.3 BLANKS=000
DESCRIPTIVES VAR1 VAR2
PRESERVE
SET FORMAT F3.0 BLANKS=999
DESCRIPTIVE VAR3 VAR4
RESTORE
DESCRIPTIVE VAR5 VAR6
RESTORE
```

The first **PRESERVE** will save all specifications which are in effect. The first **SET** changes the format to F5.3 and blank spaces in the dataset to 000, and execute the **DESCRIPTIVE** command for VAR1 and

VAR2. The second **PRESERVE** saves the new specifications (F5.3, blank=000) and some other specifications. The second **SET**, then, changes the format to F3.0 and assigns blanks in the dataset to 999. Since there is no **PRESERVE** command after the second **SET** command, the new specifications (F3.0, Blank=999) are not saved. When the first **RESTORE** command is executed the last preserved specification is restored (format changed to F5.3, and Blanks set to 000). The last **RESTORE**, then, returns the original SET specifications. You can nest **PRESERVE** and **RESTORE** commands up to 5 levels.

The **MATRIX DATA** command allows you to read raw matrix data and convert them to a matrix system file that can be used by SPSS^X procedures which handle matrix materials such as **FACTOR**, **REGRESSION**, **ALSCAL**, etc. More information can be found in Chapter 13 of *SPSS^X User's Guide: 3rd Edition*.

This is not meant to be a complete review of SPSS^X Release 3.0. If you plan to use SPSS^X extensively, it is a good idea to buy the new manual. It is available in the textbook section of the University Store. §

monospaced documents - that is, text in which each character occupies the same amount of space like typewritten documents (as opposed to proportional spacing, where each character occupies only the space it needs - most books and typeset materials are proportionally spaced).

The ScanJet and the ReadRight software will perform with the greatest accuracy on typed original documents. Documents which are proportionally spaced, are xerox copies, or are misaligned on the page will have the greatest number of errors in character recognition, or possibly even be totally unrecognizable. Draft quality dot-matrix printouts also cannot be successfully scanned. ReadRight will accept up to 8 1/2 by 11 inch originals for scanning. The scanner is equipped with a 20-sheet automatic document feeder which makes it easier to scan multi-page documents.

The ScanJet works in conjunction with the *Scanning Gallery* software for capturing images to computer graphics format files. Images as large as 8 1/2 by 14 inches may be scanned. The scanned images can have a maximum density of 300 dots per inch (this is the maximum dot density of most microcomputer laser printers).

Images such as line drawings which use only black and white can be most accurately reproduced in computer-readable format. Color images, or continuous-tone black and white images can be scanned and reproduced using the sixteen shades of grey supported by the scanner. By default, images are scanned into TIFF format graphics files. Scanning Gallery can also convert these TIFF files to MSPaint, PC Paintbrush, and GEM format files.

To use the HP ScanJet for scanning text or images, bring your material to be scanned to the Computing Center Graphics lab, and ask the lab assistant for help. For more information on the HP ScanJet, contact me via electronic mail, or at the Computing Center offices (565-2323, ISB 119). §

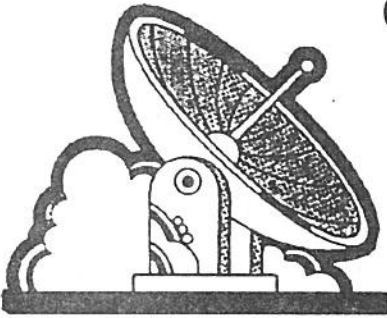
HP ScanJet Available for General Use

By Philip Baczewski, IBM Timeshare Systems Coordinator/Graphics Lab Manager/Assistant *Benchmarks* Editor (BITNET: AC12@UNTMUSIC)

One of the hotter topics in the microcomputer world lately has been the introduction of affordable text and graphics scanners to the PC marketplace. Not too many years ago, scanners were bulky specialized devices with a \$100,000+ price tag. Today, there are a multitude of devices available for use with microcomputers which can perform many of the same functions of their expensive predecessors, but at a much lower cost.

Academic Computing Services is pleased to announce the availability of one of these scanners for general use. A Hewlett-Packard ScanJet is installed on an NT AT microcomputer in the Computing Center Graphics Lab (ISB 6 - northeast corner of the ISB). This scanner can convert pictures or drawings to computer graphics formats (graphics scanning) as well as read typewritten documents into computer text files (Optical Character Recognition or OCR).

The ScanJet used in combination with the *ReadRight* software package will allow you to scan typewritten documents into a computer file (OCR). ReadRight can recognize almost any size and style of type, but is limited to



COMPUTING CENTER SHORT COURSES

1989 SPRING SEMESTER

The Computing Center is offering the following short courses for the Spring semester. Please pre-register to attend (a registration form can be found at the end of this issue). A maximum of 10 people will be admitted to each of the courses held in ISB 110. A maximum of 8 people will be admitted to each of the courses held in ISB 123.

1. **Introduction to MUSIC/SP, Part I** – MUSIC/SP is the primary interactive operating system employed by most academic users to access the NAS/8083 IBM-compatible mainframe computer at UNT. MUSIC users have access to a variety of programming languages, a sophisticated word processing system, and several statistical analysis packages. MUSIC also gives you the capability to submit batch jobs to the MVS operating system. Topics covered include gaining access over the Local Area Network, logging on and off, changing your password, and creating, editing, and storing files using the full-screen editor.

Introductory sessions to MUSIC/SP, Part I will be held in Room 110 of the Science Library (ISB) on a weekly basis beginning January 30 and lasting through March. **NO PRE-REGISTRATION IS REQUIRED FOR THESE COURSES.** A preliminary schedule is printed below. Consult the HELP DESK (565-4050) for any changes and/or additions that may have taken place. All courses will be taught by Help Desk staff.

- Monday, January 30: 9-11 a.m.
- Saturday, February 4: 9-11 a.m.
- Tuesday, February 7: 2-4 p.m.
- Wednesday, February 15: 6:30-8:30 p.m.
- Thursday, February 23: 9-11 a.m.
- Monday, February 27: 2-4 p.m.
- Tuesday, March 7: 9-11 a.m.

2. **Introduction to MUSIC/SP, Part II** – This course provides an in-depth look at various useful programs and utilities that are available on MUSIC/SP. Topics covered include accessing on-line help facilities, using electronic mail, routing output to high-speed printers, and writing files to secondary storage such as disk and tape. A working knowledge of MUSIC is required.

Two separate two-hour sessions to be held in Room 110 of the Science Library (ISB):

- Tuesday, February 16: 3-5 p.m.
Instructor: Philip Baczewski
- Wednesday, March 8: 9-11 a.m.
Instructor: Philip Baczewski

3. **Introduction to IBM Job Control Language (JCL)** – This course provides an overview of IBM JCL for users who wish to further their knowledge in this area. It is useful to individuals who plan to run batch jobs (e.g. SAS, SPSS^X, BMDP) on the IBM-compatible mainframe computer.

Two separate two-hour sessions to be held in the Academic Computing Conference Room (ISB 123):

- Wednesday, February 1: 9-11 a.m.
Instructor: George Morrow
- Friday, March 3: 3-5 p.m.
Instructor: Janis Burkham

4. **Introduction to SAS** – SAS is one of the most widely implemented data analysis systems within business and education. SAS is particularly well suited for dataset manipulation and includes an extensive procedure library providing a wide range of analytical tools. This course is recommended for individuals who plan to incorporate statistical analyses into their research. Topics covered include the reading of data into SAS, simple data transformations, recoding variables, labeling output, and performing simple univariate and bivariate analyses. **Prior knowledge of MUSIC/SP is required.**

Two separate two-hour sessions to be held in Room 110 of the Science Library (ISB):

- Thursday, February 2: 6:30-8:30 p.m.
Instructor: Phanit Laosirirat
- Monday, March 6: 3-5 p.m.
Instructor: Phanit Laosirirat

5. **Introduction to SPSS^X** – SPSS^X is the latest version of this popular data analysis system originally developed for social scientific research. While SAS is slightly more powerful for the analysis of complex datasets, many users find SPSS^X to be easier to learn. SPSS^X also in-

cludes more flexible facilities for collapsing and labeling variables. This course is recommended for individuals who plan to incorporate statistical analyses into their research. Topics covered include the reading of data into SPSS^X, simple data transformations, recoding variables, labeling output, and performing simple univariate and bivariate analyses. Prior knowledge of MUSIC/SP is required.

Two separate two-hour sessions to be held in Room 110 of the Science Library (ISB):

- Monday, February 6: 3-5 p.m.
Instructor: Panu Sittiwong
- Thursday, March 9: 6:30-8:30 p.m.
Instructor: Panu Sittiwong

6. Introduction to VAX/VMS, Part I – VMS is the interactive operating system used on the Digital Equipment Corporation (DEC) VAXcluster. Nearly all popular programming languages are supported under VMS. The topics covered in this course include gaining access to the VAXcluster through the Local Area Network, logging in and out, changing your password, creating files and directories, creating login command files, using the EDT editor, and defining logicals and symbols.

Introductory sessions to VAX/VMS, Part I will be held in Room 110 of the Science Library (ISB) on a monthly basis beginning Wednesday, February 1 and lasting through March. **NO PRE-REGISTRATION IS REQUIRED FOR THESE COURSES.** A preliminary schedule is printed below. Consult the HELP DESK (565-4050) for any changes and/or additions that may have taken place. All courses will be taught by Help Desk staff.

- Wednesday, February 1: 2-4 p.m.
- Tuesday, February 28: 2-4 p.m.

7. Introduction to BITNET – BITNET is a network linking more than 600 computers at over 300 institutions and research centers. This course covers the basic concepts of BITNET, file transfers across BITNET sites, and other services that are available on this computer network. Faculty and graduate students needing to exchange information with other universities and research institutions in the U.S., Canada, Europe, or Japan will benefit greatly from attending this course. Prior knowledge of at least one of the following interactive operating systems is required: CMS, MUSIC, VAX/VMS.

Two two-hour sessions to be held in the Academic Computing Conference Room (ISB 123):

- Tuesday, February 14: 3-5 p.m.
Instructor: Philip Baczewski
- Wednesday, March 1: 3-5 p.m.
Instructor: Philip Baczewski

8. Introduction to ARPA Internet and THENET - the ARPA Internet is a collection of related computer net-

works that link thousands of computers throughout the world. THENET is a network that connects 35 universities, research institutions, and state agencies in the state of Texas. This course covers the basic concepts, file transfer, remote login, and other services available on the networks. Faculty and students needing to exchange information with other universities, government agencies, companies and research institutions or between the various machines on the University of North Texas campus would benefit from this course. Prior knowledge of at least one of the following interactive operating systems is required: VAX/VMS, Unix, MS-DOS.

Two separate two-hour sessions to be held in the Academic Computing Conference Room (ISB 123):

- Wednesday, February 15: 3-5 p.m.
Instructor: Billy Barron
- Thursday, March 2: 3-5 p.m.
Instructor: Billy Barron

9. Introduction to PCWS and Introduction to Procomm are two short courses that deal with Personal Computer to mainframe communications. **Introduction to PCWS** presents an overview of using PC Work Station, a communications package which is specifically written to allow terminal access and file transfer capabilities between an IBM PC or compatible and the MUSIC/SP operating system. Topics covered will include setting up PCWS communications parameters, connecting to MUSIC over the UNT local area network, using PCWS's full-screen capabilities, and using PCWS for file transfer between MUSIC and the PC. **Introduction to Procomm** presents an overview of the Procomm communications package for Personal Computers or compatibles. Procomm provides several different terminal emulation modes, and supports several file transfer protocols including KERMIT and XMODEM. Topics covered include setting communications and file transfer parameters, setting up and using Procomm's dialing directory, and connecting to UNT mainframes through the local area network.

Four separate one-hour sessions to be held in the Academic Computing Conference Room (ISB 123):

- **Introduction to Procomm:**
Wednesday, February 8: 2-3 p.m.
Instructor: Kevin Mullet
- **Introduction to PCWS:**
Wednesday, February 8: 3-4 p.m.
Instructor: Kevin Mullet
- **Introduction to Procomm:**
Tuesday, March 7: 2-3 p.m.
Instructor: Kevin Mullet
- **Introduction to PCWS:**
Tuesday, March 7: 3-4 p.m.
Instructor: Kevin Mullet

Using Synonyms in CMS

By G. Sonnesso, University Computing Services, State University of New York at Buffalo (BITNET: ACSGERI@UBVM)
This article appeared on page 4 of the December 1988 issue of *INTERFACE*, the SUNY Buffalo University Computing Services newsletter.

IBM/CMS users can customize their computing environment by defining synonyms and abbreviations for the commands they use most often. This is similar to using symbols in VAX/VMS and aliases in Unix. It is very easy to add your own table of synonyms to the default table.

First you must create a file with a filetype of **SYNONYM** which contains your table. For example, I can use **XEDIT** to create a file called **MYSYN SYNONYM** which contains the following lines:

```
XEDIT EDIT 2
FILELIST FLST 2
DISCARD DEL 1
RECEIVE RECEIVE 3
FORTVS2 FORTVS2 3
```

The first column specifies an existing CMS command, module, or **EXEC** name; the second column specifies the alternate name or synonym that I prefer; the third column specifies the minimum number of characters I will allow in the abbreviation of my synonym. For example, my **DISCARD** command has the synonym of **DEL**, but I may abbreviate it to the one letter **D**. Now that I have created this file, I can add this table to the existing default table by typing the command: **SYNONYM MYSYN**

This command can be added to my **PROFILE EXEC** file so that my table will be added automatically every time I log in. To review the contents of my synonym table, I type the command **SYNONYM** and the following is displayed on my terminal:

SYSTEM COMMAND	SHORTEST FORM
ASSEMBLE	A
ACCESS	AC
AMSERV	AM
BASIC	BAS
COBOL	CO
COMPARE	COM
CONVERT	CONV
COPYFILE	COPY
CURSOR	CUR
DEFINE	DEF
DELETE	DEL
DIRMAINT	DIRM
DOSLKED	DOSL
EDIT	E
EXEC	EX
EXECDROP	EXECD
EXECLOAD	EXECL
EXECLOAD	EXL
EXECMAP	EXM
EXECSTAT	EXS
FETCH	FET
FILEDEF	FI
FILELIST	FILEL
GENMOD	G
GLOBAL	GL
HELP	H
IDENTIFY	ID
INCLUDE	IN
LISTFILE	L
LABELDEF	LA
LOADMOD	LOADM
MACLIB	MAC
MACLIST	ML
MAXIMIZE	MAX
MINIMIZE	MIN
MODMAP	MOD
MOREHELP	MORE
MOVEFILE	MOVE
NAMEFINE	NAMEF
OPTION	OP
PLIOPT	PLIO
POSITION	POS
PRINT	PR
PUNCH	PU
QUERY	Q
RDRLIST	RDRL
REFRESH	REF
RENAME	R
RELEASE	REL
RESTORE	RES
READCARD	READ
SCRIPT	SC
SENDFILE	SENDF
SENDFILE	SF
SVCTRACE	SVCT
SYNONYM	SYN
TYPE	T
TXTLIB	TXT
UPDATE	U
VS BASIC	VS
WAITREAD	WAITR
XEDIT	X

SYSTEM COMMAND	USER SYNONYM	SHORTEST FORM (IF ANY)
XEDIT	EDIT	ED
FILELIST	FLST	FL
DISCARD	DEL	D
RECEIVE	RECEIVE	REC
FORTVS2	FORTVS2	FOR

The first table is the default one supplied by IBM and shows the standard CMS abbreviations; the second table shows the new set of synonyms that I have added myself.

Please note that although you may define a synonym for the name of an **EXEC**, you cannot use synonyms when writing an **EXEC** because the synonym tables are not searched by the **EXEC** processor.

For more information about synonyms, please consult the *CMS User's Guide*. §

SigGraph Meeting Rescheduled

The January 19, 1989 ACM Dallas Area SigGraph meeting has been rescheduled for February 16. The tentative location of the meeting is the Cecil Green Building on the UTD campus in Richardson. For more information, call Mike Goss at (214) 733-7018 or Elizabeth Smith at (214) 343-7667. §

Don't forget to delete data sets when you're through with them - we need the disk space!





LifeSci Network Available

According to an article in the Fall 1988 issue of *The Open Channel* (page 5), the University of Houston University Computing newsletter, researchers in the life sciences are can now use their computers to discuss ideas with their colleagues around the world. The article states:

The Life Science Research Server, a communications system that enhances interaction among researchers in life science, is now available to computer users.

LifeSci, as it is called, runs on the main computer at Technion, a technical university in Israel.

LifeSci includes five parts, one of which is the DIGEST server which keeps track of computerized magazines. All magazines available from DIGEST are archived and indexed for users' convenience.

The NAMES server is a database of members indexed by their location, interests, and areas of expertise.

Records of computer applications developed away from the system are stored in the APPLICATION server. Instructions on how to obtain the programs listed are also on the APPLICATION server.

The CONFERENCE server manages multi-user meetings, calls members to meetings, and logs discussion for missing members.

A public clipboard is also available at BBOARD.

To access LifeSci:

- On the VAX type: SEND/REMOTE RPRLSCI@TECHNION HELP
- On CMS type: TELL RPRLSCI AT TECHNION HELP



BENCHMARKS FORUM is intended to serve as a vehicle for answering questions that may be of general interest to the user community. If you have a question, please send electronic mail to the *Benchmarks* editor (AS04@UNTVM1) or write it down and drop it by the Computing Center. We will try to answer it in the next issue.

Question: What is ROM BIOS? What are legitimate reasons for a program using it/them?

Answer: ROM BIOS is basically a whole slew of routines that are coded into a chip. These routines run all of your PC's I/O devices including the monitor and disk drives.

BIOS calls, like the ones for the screen, tend to be faster than their

counterparts in DOS calls, but your program will only run with a system that has ROM BIOS.

ROM BIOS is also usually the cause for 'incompatible compatible computers.' - since IBM's BIOS chip is copyrighted, and cannot be used by other companies freely. Many companies have developed their own chips to provide similar functions. Phoenix BIOS is supposed to be one of the most compatible. Award BIOS is another popular one.

This answer was taken from an ongoing discussion on the VIRUS-L discussion list on BITNET.

Benchmarks Reader/User feedback is encouraged. Send all letters, suggestions, etc to (AS04@UNTVM1) or to the Benchmarks Editor at:

University of North Texas
Computing Center
NT Station, Box 13495
Denton, Texas 76203



MICROCOMPUTERS

Apple II Terminal Packages

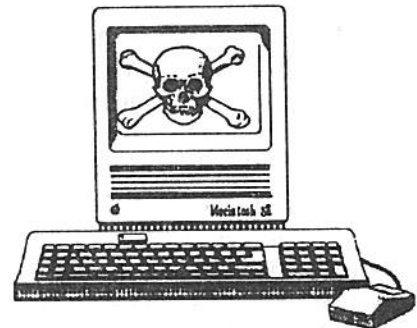
By Billy Barron, VAX System Manager
(BITNET: BILLY@UNTVAX)

I have been asked about Apple Terminal packages a lot recently. This article, therefore, will attempt to answer many of those questions. A few of the major packages for the Apple II computer series are highlighted below.

- **ASCII Express** is one of the oldest of the Apple terminal packages. It is a commercial package from Southwestern Data Systems. Versions of ASCII Express are available for DOS 3.3 and PRODOS. ASCII Express is very flexible, full of useful features, and works with most brands of modems. Unfortunately, the price for the flexibility is a very complex installation procedure. ASCII Express has its own file transfer protocol that can be used for transferring files. There are a few BBSs around that support the ASCII Express protocol. The problem is that the ASCII Express protocol is only available on Apple IIs. This means you can't use the protocol to transfer files to a mainframe or a PC, but you can do a straight text upload with error checking. Finally, ASCII Express partially supports VT52 terminal emulation. Incoming VT52 commands would be handled properly, but outgoing VT52 commands, such as the arrow keys do not work.

- **Apple Kermit** is a DOS 3.3 and PRODOS public domain package that is available on the UNT BBS. Apple Kermit will work with many types of modems and serial cards. Apple Kermit supports the Kermit protocol, which allows file transfer to any system with Kermit. Apple Kermit's VT100 terminal emulation drops characters on some of the older Apples (II, II+, Unenhanced IIe).
- **Proterm** is a PRODOS package for Apple IIs with a 65C02 processor (Enhanced IIe, IIc, IIgs) from Protech Software. Proterm supports Kermit, XMODEM, ASCII Express, and other protocols. Proterm also supports VT100 terminal emulation.
- **Apple Access** is a PRODOS terminal package from Apple for external modems. Apple Access supports XMODEM (it calls it Christenson protocol) and VT100 (ANSI). Unfortunately, the VT100 has some major flaws (at least in version 1.0) that show up during full screen editing.
- **ATP** is a shareware PRODOS terminal package that is available on the UNT BBS. ATP is written by James Miller and costs \$15 after a 7 day trial period. ATP supports only external modems and also supports VT100 terminal emulation. Currently, ATP does not have any type of file transfer protocol.

All of the above packages are useful. The only recommendation I have is that if you plan to do full screen work, don't buy ASCII Express. 🐉



Mac Virus Info

A HyperCard stack with information about all the known Mac viruses, programs to get rid of them and keep them out, and general hints on avoiding viruses is available from a **LISTSERV** on BITNET. Just send mail to **LISTSERV** at **SCFVM** with the message: **GET ANTI-VIR SITHQX**. A copy of the file will be sent to you in BinHex4 format. It will have to be decoded by BinHex4 or by StuffIt.

The message **TELL LISTSERV AT SCFVM GET VIRUSREM\$PACKAGE** will get you a list of all the files available from that **LISTSERV** having to do with Mac viruses (This is for CMS users, on the VAX use: **SEND LISTSERV@SCFVM <RETURN>**). The individual files can be ordered via **TELL LISTSERV AT SCFVM GET** file name.

The files are all in BinHex4 format and should be uploaded as **TEXT** files to a Mac. BinHex4, BinHex5, or one of the more recent versions of StuffIt should be used to get them into executable format. Further information can be obtained by sending mail to Joe McMahon (**XRJDM@SDFVM**) 🐉

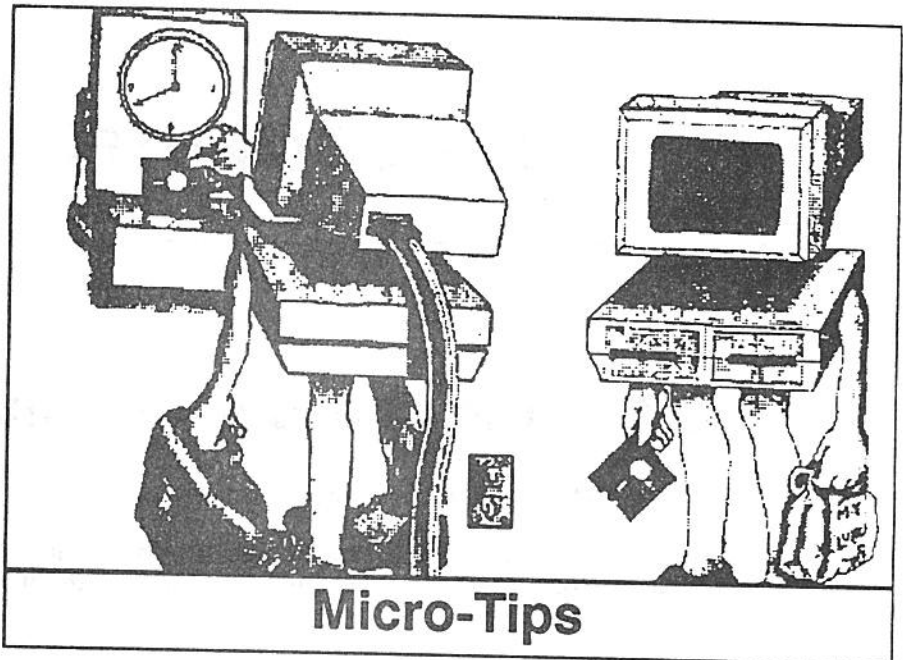
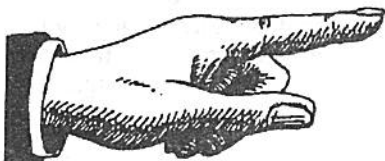
Educational Versions of Popular Software Available

Several companies have announced software marketing plans aimed at the academic community, according to the October, 1988 issue of *Academic Computing*. Ashton-Tate, Campus Technology, and MicroPro all sell software at reduced prices to college faculty, students, and administrators.

Ashton-Tate, of Torrance, California, has a program that allows college bookstores and campus information centers to be authorized resellers. Product packages and copyright screens are marked "For Internal Educational Use Only," but all the software are fully functioning versions identical to those available from commercial dealers. Some sample educational prices are: *dBASE IV* - \$295; *Framework III* - \$99; *dBASE MAC* - \$99; *FullWrite Professional* - \$99; *Full Impact* - \$99; *Full Paint* - \$99.

Campus Technology Products, Leesburg, Virginia, and MicroPro International, San Raphael, California are offering *WordStar5 for Students* at a suggested retail price of \$59.95. Some of the non-word processing functions of *WordStar5*, such as *TelMerge*, *Pro-Finder* and *MailList*, are not included but can be purchased separately as the *Power-Pak*.

Campus Technology Products has agreed to be the exclusive distributor to the education market for all MicroPro products. They have been the education market representatives for MicroPro for the past three years, but they will now be able to sell directly to college stores as well as students and faculty. §



This column is intended to serve as a forum for sharing useful tips on making more productive use of microcomputers. If you have a tip that you feel may be of use to campus users, submit it to the Benchmarks editor for possible inclusion in a future issue.

PC Transformations

This month's "Micro-Tip" is of the tongue-in-cheek variety - not to be taken very seriously. It comes from an article that appeared in the November 14 issue of *COMPUTER-WORLD* (page 27) entitled "What to do with leftover PCs." The author of the article, Michael Cohn, was pondering that problem and came up with some rather interesting solutions.

- **The terminal fish bowl** - That's right folks, don't worry about that non-functioning monitor. Just cut a hole in the top, gut the insides and fill it with water. Throw in a few goldfish and plastic sand-castles and you've got one of the greatest conversation pieces ever. According to Cohn, you're friends will never tire of making "microfiche" and "sync or swim" jokes (this could be a reason not to have a terminal fish bowl).

- **The portable PC Cooler** - A "double whammy," this solves the problems of career advancement and old 40 pound "portable PC" disposal at the same time. Just saw open the middle of the "portable" and remove all the tubes and wires. Line it with styrofoam and your cooler is ready. Says Cohn:

Your boss will think you're working at home late at night. Your friends will think you're working your way to the top. You'll know you're working on a six-pack of your favorite beverage.

- **Keyboard Name Plates** - Use the letters from old keyboards for "hi-tech" name plates.
- **Executive entertainment** - Another use for those old keyboards is for entertainment. Rearrange the letters at your desk for hours of fun, or use the arrows for endless varieties of practical jokes.
- **Disk Dishes** - Last but not least, this little idea is another "double whammy." You dispose of worthless 5 1/4 diskettes, and you have a ready supply of plates at the office. Cohn points out that they're great for gooey doughnuts, but probably not the dish of choice for jello.

VAX COMPUTER CLUSTER

VMS 5.0: The Changes Continue

By Billy Barron, VAX System Manager (BITNET: BILLY@UNTVAX)

VMS 5.0 is the latest release of Digital Equipment Corporation's Virtual Memory System (VMS) operating system and is full of new and interesting features. A list of these follow.

Symmetric Multiprocessing (SMP)

VMS 5.0 supports the new multiprocessor VAX systems, such as the 6200 and 8800 series. Symmetric multiprocessing is tightly coupled multiprocessing in which all processors work in parallel. Any processor in a SMP arrangement can execute user programs, operating system programs, or perform I/O. SMP is transparent to the user.

Digital Command Language

Digital Command Language (DCL) under VMS 5.0 supports IF-THEN-ELSE-ENDIF, CASE, and LOOP-ENDLOOP statements in command procedures. These new statements will make DCL a more structured language. Also, the RECALL/ERASE command is available to erase the recall buffer.

Record Management Services

Record Management Services (RMS) is the part of VMS which handles disks, files, and tapes. In VMS 5.0, RMS will be significantly faster.

MAIL

VMS 5.0 MAIL has several new features. The SET EDITOR command will allow the user to easily change his default MAIL editor. Carbon copying of letters will be possible. Also, the new MARK command allows messages to be marked for future reference. Currently, the PRINT command in MAIL will only send printouts to the SYSS\$PRINT queue (GAB 5th floor lab). With VMS 5.0, the user can choose the queue his printouts from MAIL will use.

MONITOR

The MONITOR utility will have several new modes. These new modes include multiple CPUs, RMS, and disk utilization. The RMS mode is the most interesting since it will gather statistics on specific files.

TPU

The TPU editor will have some new commands. The most important new feature is initialization files, which will partly eliminate the need for the large section files used in the past. Also, all TPU section files must be recompiled to work correctly under VMS 5.0.

EUNICE

EUNICE, the UNIX emulator is currently inoperative under VMS 5.0. The Wollongong Group, who markets EUNICE, is supposed to send an updated version of this product that will work with VMS 5.0.

Other Improvements

Many other utilities have been improved in VMS 5.0. These include BACKUP, DEBUG, and SHOW CLUSTER. Along with VMS 5.0, DEC is shipping upgrades to all of their software, which include most of the language compilers, and DATATREIVE. DEC has added more run-time library and system services routines to VMS including a brand new Parallel Processing Library (PPL). §

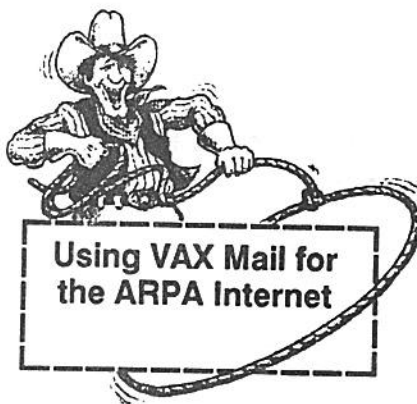
Changes in VAXcluster Sytek Ports

By Billy Barron, VAX System Manager (BITNET: BILLY@UNTVAX)

The number of VAXcluster ports on the Sytek LAN has been reduced from 52 to 42. More and more users are using the Ethernet to access the VAXes (i.e. GAB 5th floor lab). Therefore, fewer Sytek ports are needed. The range of addresses for the cluster is now from DEC up to E00. The E01 through E05 ports no longer exist.

Due to a reorganization of terminal server equipment, the DFC-E00 ports will require one or two extra

returns to establish a session on the cluster. §



By Billy Barron (BILLY@UNTVAX)

VAX users can easily send mail messages to other users on the Internet by using the MAIL program. The procedure is identical to the way VAX users send BITNET mail. Once in the MAIL program, the SEND command is used to send mail. The SEND command prompts for an address, the following address format can be used for ARPA Internet (ARPANET, CSNET, NSFNET, MILNET, etc) mail:

To: IN%"userid@hostname"

An example session for sending mail to user WATERS on the host SRI-NIC.ARPA would look like:

```
$ MAIL
MAIL> SEND
To: IN%"WATERS@SRI-NIC.ARPA"
Subject: Testing Internet MAIL
Enter your message below. Press
CTRL/Z when complete, or CTRL/C to
quit:
Testing, Testing, Testing
<CTRL><Z>
```

The nodename of the VAX cluster is VAXB.ACS.UNT.EDU, so the Internet return address of a VAX user would be `userid@VAXB.ACS.UNT.EDU`.

You receive ARPA Internet mail in the same manner that you would receive any other mail on the VAX, that is, by typing MAIL, pressing

<RETURN> twice. If you need to know more about VMS MAIL, type HELP while at the MAIL prompt. §

Some Handy TCP/IP Utilities for Getting Internet Information

By Sean D. Wheeler, Vax Operator (SEAN@UNTVAX)

Have you ever wanted to contact someone at another university, but couldn't remember what their username was or the exact name of the remote node? Or maybe you just wanted to see if they were signed on so that you could talk to them.

The TCP/IP network protocol has some utilities available to help you find the information that you need when using the Internet Network.

WHOIS

WHOIS is a program that accesses the DDN (Data Defense Network) directory database. This database contains the name, mailing address, telephone number, and EMAIL address for Internet users who are registered with the DDN NIC (Network Information Center). The database server actually resides on the node SRI-NIC.ARPA. WHOIS is a useful facility for locating people on the network, especially node and network contacts.

Format: WHOIS name

Name is a string that will be looked for in the Database. For example:

```
Smith [looks for name or handle Smith]
.Smith, John [looks for name John Smith only]
```

To search for mailboxes, use one of these example forms:

```
Smith@ [looks for mailboxes with username Smith]
@Host [looks for mailboxes on HOST]
Smith@Host [looks for mailboxes with username Smith on Host]
```

Example:

```
$ WHOIS @VAXB.ACS.UNT.EDU
```

Mullet, Kevin W. (KWM12)
KEV@VAXB.ACS.UNT.EDU (817) 565-2324
Barron, Billy (BB194)
billy@VAXB.ACS.UNT.EDU (817) 565-2324

To single out one record, look it up with "!xxx", where xxx is the handle, shown in parenthesis following the name, which comes first.

\$ WHOIS BB194

Barron, Billy
(BB194)billy@VAXB.ACS.UNT.EDU
University of North Texas
Computing Center
Denton, TX 76203
(817) 565-2324

Requests to be added to the DDN Database should be sent to Billy Barron, the UNT.EDU domain technical contact. A copy of the request form and explicit instructions for filling it out can be found in DUA1:[PUBLIC.NETWORKS.ARPA]USER-TEMPLATE.TXT on the VAX. Mail the completed request form to BILLY@VAXB.ACS.UNT.EDU.

TCPFINGER

TCPFINGER is a TCP/IP program that lists information about users on a local or remote Internet host.

Format:

```
TCPFINGER [options] [username,...] [@host]
```

By default TCPFINGER lists the login name, full name, terminal name, idle time, login time, office location, and phone number (if they are known) for the user(s) on the host. This format is used when no username or host are specified and when only the host is specified.

When a username or a list of usernames is specified (with or without the host parameter), TCPFINGER uses a longer output format. It includes all the information described above as well as the user's home directory and login shell, any plan which the user has placed in the file .PLAN (in their home directory), and the project on which they are work-

ing from the file .PROJECT (also in their home directory).

Some command line options are:

- h Suppress printing of the .PROJECT files
- l Force long output format
- p Suppress printing of the .PLAN files
- q Quick list with only login name, terminal name, and login time
- s Force short output format

username[,...] This parameter indicates a username or list of usernames from which you wish to see information on.

@host indicates the name of the host node from which you want information from.

Examples:

```
$ TCPFINGER @SRI-NIC.ARPA
User Personal name Job Subsys Idle TTY
Terminal location
BELMONTE Michelle Belmonte 55 MM
47 EJ288-2 M. Belmonte x2816
FEINLER Jake Feinler 43 FTPTSRT
13 155 WS16.NISC.SRI.COM FMC
KATIE Katie Kaattari 24 EXEC
10.163 WS16.NISC.SRI.COM
```

```
$ TCPFINGER
SEAN@VAXB.ACS.UNT.EDU
Login name: SEAN
In real life: Sean D. Wheeler
Directory: $1SDUA0:[SEAN]
Project: Currently working on a semester
project for CSCI 4010.
Plan: To fully master the workings of a
TCP/IP network and not go insane.
```

NSLOOKUP

NSLOOKUP is a TCP/IP network command that allows a user to send queries to a name server to find information about host addresses, host CPU and operating system types, mail relay and supported protocols.

Format:

```
NSLOOKUP [ host-to-find ] [ server ]
```

NSLOOKUP has two modes: interactive and noninteractive. Interactive mode allows the user to query the name server for information about various hosts and domains or print a

VAX CLUSTER USAGE STATISTICS

November Top Ten Programs: Frequency of Runs

Program	Description	Number of Runs	Percent of Total
1. LOGINOUT	User login	73604	14.3
2. SET	VMS Utility	72611	14.1
3. DIRECTORY	VMS Utility	57613	11.2
4. DELETE	VMS Utility	51139	9.9
5. TYPE	VMS Utility	38008	7.4
6. SHOW	VMS Utility	25765	5.0
7. EDT	Editor	21901	4.3
8. NETSERVER	DECnet Server	17818	3.5
9. User Programs	Compiled Programs	15463	3.0
10. SYSLOGIN	User Login	13562	2.6
Total		514250	

November Top Ten Programs: CPU Time Used

Program	Description	CPU Time	Percent of Total
1. User programs	Compiled Programs	3 08:32:53.45	25.1
2. DISKEEPER	Disk Compression Utility	1 05:42:23.89	9.3
3. ACC	VMS Accounting Utility	1 01:50:38.85	8.1
4. EDT	Editor	1 01:10:20.93	7.9
5. LISP	LISP Interpreter	0 20:56:20.60	6.5
6. PASCAL	PASCAL compiler	0 20:38:10.89	6.4
7. LOGINOUT	User login	0 10:05:29.40	3.2
8. BACKUP	VMS Utility	0 09:40:55.42	3.0
9. MAIL	VMS Utility	0 06:37:12.06	2.1
10. PACSPROCESS	PACS+Billing Utility	0 06:23:43.88	2.0
Total		13 08:16:37.37	

list of hosts in the domain. Invoking the command without parameters will take you into interactive mode. Noninteractive mode is used to print just the name and Internet address of a host or domain.

Parameters:

The first command line parameter specifies the host that you want information on. The second parameter is the name of the Name-Server to use when looking for the specified host. If no server is specified then

NSLOOKUP will use the local name server.

Example:

```
$ NSLOOKUP SIMTEL20.ARPA
Server: vaxa.acs.unt.edu
Address: 129.120.1.3
```

```
Name: WSMR-SIMTEL20.ARMY.MIL
Address: 26.0.0.74
Aliases: simtel20.arpa
```

Further information can be found in **Help** under TCP_IP_\$, WHOIS_\$, TCPFINGER_\$, and NSLOOKUP_\$.

COMPUTER SERVICES

Mainframe Performance Statistics

NAS/8083 Dual Processor Performance Statistics for November

CPU	SYSTEM	Scheduled Operating Hours	Planned Maintenance Hours	Planned Production Hours	Unplanned Maintenance Hours	Production Hours Achieved	System Uptime
ACAD	VM/SP3	720	0.00	720.00	0.40	719.60	99.9%
ACAD	MUSIC/SP	720	38.82	681.18	0.93	680.25	99.9%
ACAD	MVS/JES2	720	0.00	720.00	1.02	718.98	99.9%
ACAD	COMPLETA	720	0.00	720.00	3.89	716.11	99.5%
ADMN	MVS/JES2	720	0.00	720.00	1.66	718.34	99.8%
ADMN	COMPLETA	286	0.00	286.00	0.73	285.27	99.7%
ADMN	ADABASA	720	18.92	701.08	2.43	698.60	99.6%

System Uptime = (Production Hours Achieved) / (Planned Production Hours)

Production Hours Achieved = (Planned Production) - (Unplanned Maintenance)

Scheduled Operating Hours = (Planned Maintenance) + (Planned Production)

MUSIC/SP Planned Maintenance Hours include 26.36 hours for system backup and 12.46 hours for VM/SP3 system backup.

ADABASA'S Planned Maintenance Hours include 18.92 hours for system backup.

The ACAD CPU achieved 100% uptime; the NAS/7360 DASD achieved 100% uptime; the NAS/7380 DASD achieved 100% uptime. The ADMN CPU achieved 100% uptime; the NAS/7360 DASD achieved 100% uptime; the

NAS/7380 DASD achieved 100% uptime.

Lost productivity is calculated as the greatest amount of elapsed time that any

one of the production systems was unavailable for scheduled operation. Lost productivity hours were contributed to by the key causes appearing in the table below.

ACAD CPU:

Miscellaneous

1. Inadvertent logoff of MUSIC/SP by operator.	0.28 HOURS
2. Undetermined causes for systems restarts.	0.48
3. VM/SP3 System Tuning/Improvements.	0.83
4. COMPLETA system maintenance..	2.58
TOTAL	4.17 HOURS
GRAND TOTAL FOR ACAD	4.17 HOURS

ADMN CPU:

Miscellaneous

1. COMPLETA system down to run single jobs.	0.50 HOURS
2. MVS/JES2 System Tuning/Improvements.	1.50
3. Undetermined causes for systems restarts.	1.43
TOTAL:	2.98 HOURS
GRAND TOTAL FOR ADMN:	2.98 HOURS

DISK BACKUP SCHEDULES

OS/MVS Backup Schedule

OS/MVS disk packs (academic and administrative) are backed up daily, Tuesday through Saturday, from 4-6:30 a.m., and Sunday from Midnight to 3 a.m.

VM/CMS

Backups of VM system disks and CMS mini-disks are performed every Wednesday morning at 3 a.m. CMS mini-disks are also backed up every other day sometime during the early hours of the morning. Users do not have to log-off during these backups.

MUSIC/SP Backup Hours

A message will be sent to all users signed on to MUSIC/SP approximately 10 minutes before backups are begun. It will be in the form ****MUSIC SHUT DOWN AT xxxx AM-SCHEDULED BACKUP****. To find out

the backup hours while signed on to MUSIC/SP, enter **HELP HOURS**. The following backup schedule is currently in effect:

Tuesday 3 a.m. (for about 3 hours)

Weekly backup

Wednesday 3 a.m. (for about 2 hours)

Daily backup

Thursday-Monday 4 a.m. (for about 1 hour)

Daily backup

PHOENIX Backup Hours

PHOENIX is backed up weekly on Sunday night. The backup begins at midnight and lasts for approximately 30 minutes.

VAX Backup Schedule

Incremental backups of the VAXcluster are performed Monday through Thursday at 6 p.m. Users do not have to log-off, but any files that

are open at the time of the backup will NOT be backed up.

Full backups of both systems are done every Friday beginning at 8 a.m. These generally will take all day to complete. Again, users do not have to log-off, but any files that are open will not be backed up.

A "Stand Alone" backup of the system disk is done once a month. This procedure makes a copy of the system disk that can be used to restore its contents if the disk is completely destroyed. The system will be shut-down for this. Watch the system log-on message for specific times and dates.

NOTE: Requests for restoration of files should be made via MAIL to the username OPERATOR. Your file can only be restored if it existed before the last backup was done.

ACADemic (NAS) Program Hit Parade

November Top Ten Programs : Frequency Of Runs

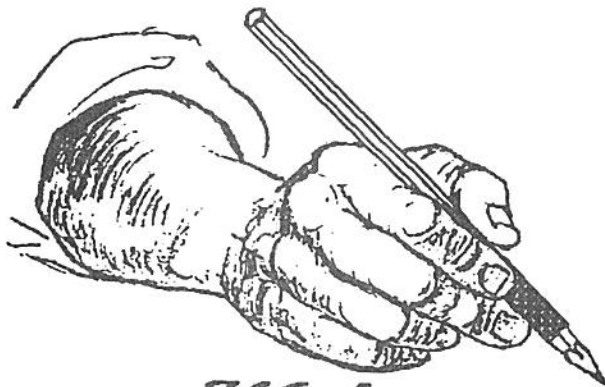
Program	Description	Number of Runs	Percent of Total
1. IEWL	Linkage Editor	21475	15.7
2. PGM=*.DD	Compiled Program	20913	15.3
3. IKFCBL00	VS COBOL Compiler	19504	14.3
4. IEBGENER	IBM Utility	12951	9.5
5. IEV90	Assembler H	9171	6.7
6. IEBPTPCH	IBM List Utility	8796	6.4
7. IDCAMS	VSAM Utility	8178	6.0
8. SASLPA	SAS	6606	4.8
9. ADARUN	ADABAS Utility Module	5966	4.4
10. PTPCH	Dataset Lister	5200	3.8

November Top Ten Programs: CPU Seconds Used

Program	Description	CPU Seconds	Percent of Total
1. SASLPA	SAS	100852	36.3
2. COMPLETX	Academic COM-PLETE	46933	16.9
3. PGM=*.DD	Compiled Program	24392	8.8
4. IKFCBL00	VS COBOL Compiler	22776	8.2
5. SPSSX	SPSSX	13004	4.7
6. FATS	Tape Verification Program	10106	3.6
7. ADARUN	ADABAS Utility Module	8590	3.1
8. SCRIPT	Waterloo/SCRIPT	8349	3.0
9. PTPCH	Dataset Lister	7182	2.6
10. IEV90	Assembler H	6359	2.3

The programs listed in this section were used the most frequently on the NAS CPU during the month of November, 1988.

Please Note that ACAD is the official designation of the part of the NAS/8083 CPU that is dedicated to faculty and student use. The portion of the computer reserved for University administrative purposes is termed ADMN.\$



*Welcome
Back!*



UNIVERSITY
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COMPUTING
CENTER

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Dave Molta, Manager of Academic Computing Services
Coy Hoggard, Manager of Administrative Information Systems
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Computing Center Short Course Registration Form

Please complete this form and return it AS SOON AS POSSIBLE if you wish to attend any of the short courses listed below. You may also register over the phone by calling (817) 565-2324.

NAME: _____ PHONE: _____

DEPT: _____ CLASSIFICATION: _____

MAILING ADDRESS: _____

I wish to attend:

● **Introduction to JCL (ISB 123):**

___ Wednesday, February 1: 9-11 a.m.

___ Friday, March 3: 3-5 p.m.

● **Introduction to SAS (ISB 110):**

___ Thursday, February 2: 6:30-8:30 p.m.

___ Monday, March 6: 3-5 p.m.

● **Introduction to SPSS-X (ISB 110):**

___ Monday, February 6: 3-5 p.m.

___ Thursday, March 9: 6:30-8:30 p.m.

● **Introduction to PROCOMM (ISB 123):**

___ Wednesday, February 8: 2-3 p.m.

___ Tuesday, March 7: 2-3 p.m.

● **Introduction to PCWS (ISB 123):**

___ Wednesday, February 8: 3-4 p.m.

___ Tuesday, March 7: 3-4 p.m.

● **Introduction to BITNET (ISB 123):**

___ Tuesday, February 14: 3-5 p.m.

___ Wednesday, March 1: 3-5 p.m.

● **Introduction to ARPA Internet and THENET (ISB 123):**

___ Wednesday, February 15: 3-5 p.m.

___ Thursday, March 2: 3-5 p.m.

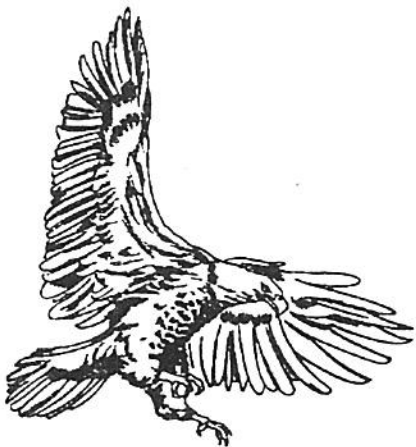
● **Introduction to MUSIC/SP, Part II (ISB 110):**

___ Thursday, February 16: 3-5 p.m.

___ Wednesday, March 8: 9-11 a.m.

I would like to see more classes offered: ___ on weekends; ___ at night.

The classes I am interested in are: _____



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The Computing Center
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Denton, TX 76203

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